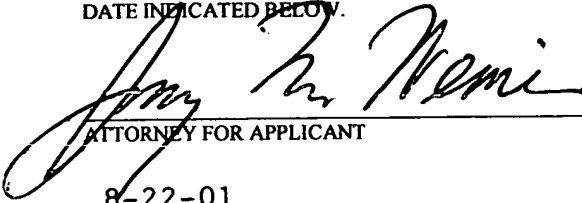


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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Application	LOWENSTEIN, M.)	
of:)	Group Art Unit: MMC2/0430
)	
on:	ELECTRICAL)	Examiner: HUYNH, K.
	FILTER/PROTECTOR, AND)	
	METHODS OF)	
	CONSTRUCTING AND)	
	UTILIZING SAME)	
)	
)	
Serial No.:	08/422,360)	
)	
Filed On:	4/17/95)	

Commissioner for Patents
Washington, D.C. 20231

DECLARATION OF WILLIAM J. PIRRONE

I, William J. Pirrone, hereby declare and state as follows:

1. I am employed by Chase Manhattan Bank as Vice President, Director of Global Engineering. I have been practicing electrical engineering for over twenty years. One of my duties is to obtain the best technology available to ensure absolute reliability of the power systems supporting our critical computer operations. Our computer operations must function on a 24 hour per day, 7 days per week basis; downtime is not permitted. As a result of my responsibilities, I have taken it upon myself to become familiar with every power quality

enhancing technique available on the market. I have studied intensively all the technologies available to prevent electrical system problems caused by harmonic currents.

2. The term "INVENTION" as used herein means the devices defined by the following claims 22, 26, 29, and 39:

"22. In a multiple phase electrical system for supplying power from an AC source to one or more nonlinear loads connected to at least one phase line therein, a device for substantially eliminating currents in a neutral wire, said device comprising:

a first completely-passive parallel resonant circuit having three passive electrical branches connected in parallel;

said first completely-passive parallel resonant circuit is tuned to a third harmonic frequency of a fundamental frequency of said AC source; and

said three passive electrical branches comprise a first branch consisting of a capacitor, a second branch consisting of a reactor, and a third branch consisting of a resistor.

26. A device according to claim 22, wherein:

each phase line of said multiple phase electrical system supplies power to an associated one of said nonlinear loads;

said device includes a second completely-passive parallel resonant circuit and a third completely-passive parallel resonant circuit;

each of said first, second and third completely-passive parallel resonant circuits is connected along a separate phase line of said multiple phase electrical system in series with at least one of said nonlinear loads whose power is supplied by said separate phase line; and

each of said first, second and third completely-passive parallel resonant circuits is tuned to said predetermined harmonic frequency of said fundamental frequency of said AC source.

29. A device for substantially eliminating a predetermined harmonic current generated by a nonlinear load in an electrical distribution system which distributes power from an AC source, said device comprising:

a completely-passive parallel resonant circuit connected in series with said nonlinear load;

said completely-passive parallel resonant circuit comprises three completely-passive electrical branches;

said completely-passive parallel resonant circuit is tuned to a third harmonic frequency of a fundamental frequency of said AC source to change the current drawn by said nonlinear load; and

said three completely-passive electrical branches comprise a first branch consisting of a capacitor, a second branch consisting of a reactor, and a third branch consisting of a resistor.

39. A device for reducing currents in an electrical system which supplies power to a nonlinear load from an AC source, comprising:

a completely-passive parallel resonant circuit connected in series with said nonlinear load;

said completely-passive parallel resonant circuit comprises three completely-passive electrical branches;

said completely-passive parallel resonant circuit is tuned to a third harmonic frequency of said AC source to change the current drawn by said nonlinear load;

a housing member for said completely-passive parallel resonant circuit; and

means for connecting the nonlinear load to said completely-passive parallel resonant circuit.”

3. In particular I have examined closely the INVENTION utilized by Harmonics Limited, LLC (which is the assignee of the above-identified patent application), a device for substantially eliminating a predetermined harmonic current generated by a nonlinear load in an electrical distribution system which distributes power from an AC source.
4. I thoroughly understand how the INVENTION operates, which is unique to the industry because of the way it operates, actually preventing harmonic currents from flowing instead of removing them after they are in the system. Because of this, I have chosen Harmonics Limited equipment utilizing the INVENTION for all our critical power sites.
5. Harmonics Limited's technology utilizing the INVENTION blocks the formation of harmonic currents in the electrical distribution system. It uses a parallel-resonant tank circuit in series with the harmonic-current producing load. This tank circuit, tuned to the 3rd harmonic, has a near infinite impedance at that frequency and therefore will not permit 3rd harmonic currents to flow anywhere in the distribution system. Thus these damaging harmonic currents are never formed in the system and, therefore, do not have to be removed. All other technologies attempting to reduce harmonic current flow in a distribution system operate by absorbing, tolerating, or canceling the 3rd harmonic current after it is present and flowing in the system. These technologies do not remove harmonic current from the entire system, but only from the point where they are connected back to the transformer. These technologies dissipate the harmonic currents as heat, which must be removed from the facility at extra cost.

6. I first purchased harmonic suppression systems using the INVENTION from Harmonics Limited in the year 2000. Since that time I have purchased more than one million dollars worth of units using the INVENTION on the way to my goal of equipping every Chase facility which has critical computer loads with Harmonics Limited products using the INVENTION. I would never consider using any of the competing technologies for solving harmonic problems. The essential difference between the INVENTION and other technologies is that the INVENTION incorporates a circuit that prevents formation of harmonic currents. It is the application of this circuit that makes the Harmonics Limited products so valuable and unique in the marketplace.
7. Chase Bank's purchases of harmonic suppression systems containing the INVENTION have been approximately as follows.

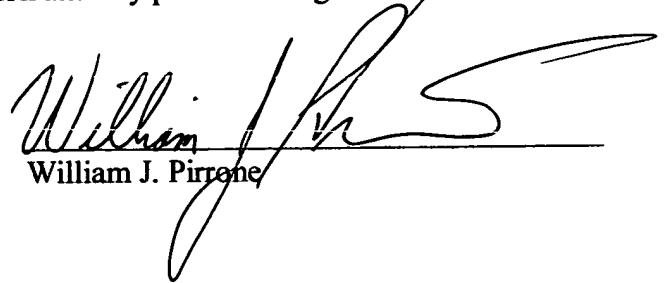
<u>Year Purchased</u>	<u>Approximate Retail Dollar Value</u>
2000	572,000.00
2001 (through 6/31)	513,200.00
Total to date	1,085,200.00

8. Chase Bank's purchases of Harmonic Limited harmonic suppression systems utilizing the INVENTION are increasing, and I expect this trend will continue. Our goal is to have every one of our critical computer centers protected by the INVENTION. The action of the INVENTION to prevent formation of harmonic currents, rather than treating them after they are formed, is the reason we are using and will continue to order Harmonics Limited products containing the INVENTION.

9. Chase Bank's purchases of Harmonic Limited products utilizing the INVENTION are not the result of extensive advertising. In fact, the INVENTION is not the type of product that can be sold by advertising hyperbole, and Harmonics Limited has conducted minimal advertising in connection with this technology. Rather, the purchasers of this technology are sophisticated electrical and maintenance engineers who base purchasing decisions on functionality and performance. Harmonics Limited's products utilizing the INVENTION are sold entirely through a network of representative sales firms which deal directly on a one-to-one basis with the engineers responsible for computer center design and operation. The rep firms provide potential customers with literature, live demonstrations, and testimonial data. A demonstration of harmonic suppression by the INVENTION, particularly when compared with competing technologies, leaves no doubt that this unique technology is superior in every way.
10. Harmonic Limited's products utilizing the INVENTION are more expensive than competing technologies; therefore the commercial success, and Chase's reason for purchasing this technology, is not due to aggressive pricing or discounts.
11. The commercial success of equipment from Harmonics Limited utilizing the INVENTION is attributable to the unique way it operates, the prevention of harmonic current flow rather than removal of harmonic currents after they are formed in the system.
12. I declare that all statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true; and, further, that these statements were made with the knowledge that willful false statements and the

like are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the above-identified application and any patent issuing thereon.

Dated: Aug. 7, 2001


William J. Pirrone